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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/075,311	02/14/2002	Mark Thomas Johnson	NL010090	8934

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EXAMINER	
NGUYEN, KEVIN M	
ART UNIT	PAPER NUMBER
2674	

DATE MAILED: 12/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/075,311	JOHNSON ET AL.	
	Examiner	Art Unit	
	Kevin M. Nguyen	2674	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 September 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5,7 and 10-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,7 and 10-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 February 2002* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Request for Continued Examination

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 09/29/2005 has been entered. An action on the RCE follows:

2. This office action is made in response to applicant's amendment/argument filed on 09/29/2005. Claims 1-5 and 7 are amended, claims 6, 8 and 9 are cancelled, claims 10-23 are new. Claims 1-5, 7, and 10-23 are currently pending in the application. An action follows below:

Priority

3. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 10/075,311, filed on 14 February 2002.

Drawings

4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the a pulsed backlight

system, the pulse of light as recited in claim 1, and a first time, a second time, a pulse of light, a third time, a frame period, and increasing row selection time as recited in claim 10, increasing an applied drive voltage across the pixels as recited in claim 2, the row driver applies sequentially larger voltage as recited in claim 11 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the

art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 1-5, 7, and 10-23 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

As per claims above, the application does not disclose the new limitations "a pulsed backlight system that applied a pulse of light at a select time after the sequence of selecting the pixels", as recited in independent claim 1, lines 7-8, "so as to minimize a variance between the select time of applying the pulse of light and times that the pixels complete their switching", as recited in claim 1, lines 11-13, "a first time to a second time within a frame period", as recited in claim 10, lines 5-6, "a pulse of light at a third time within the frame period", as recited in claim 10, lines 8-9, "a difference between the third time and the row selection time of the row pixels" as recited in claim 10, lines 12-13.

The entire application, especially page 3, lines 20-22, as indicated by the applicant, only discloses that "As stated in the opening paragraph, the full picture is first addressed within a frame period when a pulsed backlight system is used, and after the last picture line has been addressed, a short intense light pulse is emitted by a light source (not shown)". Therefore, these limitations contain various inconsistencies and/or ambiguities so that the Examiner is unable to understand where does the pulsed backlight system apply a pulse of light at a select time after the sequence of selecting the pixels ? how does a variance minimize between the select time of applying the pulse of light and times that the pixels complete their switching ? How does a pulse of light

provide at a third time within the frame period ? How is different between the third time and the row selection time of the row of pixels ?

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claim 1 recites the limitation "the sequence of selecting the pixels" in lines 7-8. There is insufficient antecedent basis for this limitation in the claim.

Claim Objections

9. Applicant is advised that should claims 12, 13, 14, 15 and 19 be found allowable, claims 16, 17, 18, 20 and 21 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. Claims 1-5, 10-12, 16 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhang et al (newly cited, US 5,461,397) in view of Bae et al (previously cited, US 5,247,194), and further in view of Kumagawa et al (newly cited, US 6,232,944).

12. As to claim 1, Zhang et al (Zhang) teaches a display device comprising:

a pixel and at least one switching element at each area of intersection of a matrix of selection electrodes and data electrodes [the rows of pixels will overlap the columns at a layer of light modulating material between row and column electrodes to define rows and column of pixels that are substantially co-existence with the overlapping areas of the row and column electrodes, see Fig. 1A, col. 7, lines 18-23];

a first driver that is configured to drive the selection electrodes in a sequence [a row driver 106 for scanning the LCD row-by-row, see Fig. 1A, col. 6, lines 45-46];

a second driver that is configured to drive the data electrode [a column driver 102 for feeding the transmittance modulation signal to pixels of the row currently being scanned, see Fig. 1A, col. 6, lines 46-48];

a pulsed back light system that applies a pulse of light at a select time after the sequence of selecting the pixels [the light pulse of appropriate color is generated by means of the backlight unit to illuminate the corresponding portion of LCD at a fixed delay after the scanning of certain pixels rows, see Fig. 2, col. 4, lines 19-22], so as to minimize a variance between the select time of applying the pulse of light and times that the pixels complete their switching [this operation scheme minimizes the error in the state of the transmittance of the pixels. In practical cases, in order to minimize the color crosstalk between subsequent color subframes and between neighboring subsections, see col. 8, lines 35-39] as the best understand by the Examiner due to 35 U.S.C. 112, first paragraph.

Accordingly, Zhang teaches all of the claimed limitations except wherein the thin film transistor (TFT)/switching element liquid crystal display device is configured to increase a switching rate of pixels.

However, Bae et al (Bae) teaches a liquid crystal display device which includes a pixel is constructed by using a thin film transistor as a switching element and when the pixel electrode is driven by the thin film transistor, see Fig. 4, col. 3, lines 56-59. Bae further teaches thin film transistor with an increased switching rate, see the title.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to change to implement the cooperation of the TFT-liquid crystal display device is configured to increase the switching rate of pixels as taught by Bae with the liquid crystal display device and the backlight unit of Zhang in order to achieve the benefit of provide a structure comprising a plurality of thin film transistors arranged in matrix array of which the manufacturing steps are easy to be carried out and the on-currents are more improved, and to further provide a thin film transistor assigned in a matrix array to be formed directly on an address line without forming a gate electrode for the formation of a transistor on the gate address line, see Bae, col. 2, lines 7-15.

The combination of Zhang and Bae teach all of the claimed limitations, except wherein the display device is configured to increase the switching rate of the pixels based on the sequence of selecting the pixels.

However, Kumagawa et al (Kumagawa) teaches a twenty-third embodiment, see Fig. 32, shows a circuit that corresponds to one part of the control circuit 307 in Fig. 27,

see col. 38, lines 32-36. According to the effect of the offset adder circuit, the pulse width increases in the order of a. nearest, b. middle, and c. farthest, see col. 38, lines 51-53. In the LCD panel, the scanning voltage level decreases along with the distance from the power source, i.e., from the nearest to the farthest, due to the CR circuit formed by the resistance of the scanning electrode and the capacitance of the pixel. The voltage applied to pixel is the difference voltage between the voltage level of the scanning electrode and the signal electrode, see col. 39, lines 7-14.

It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to change to implement the cooperation of the display device is configured to increase the switching rate of the pixels based on the sequence of selecting the pixels as taught by Kumagawa with the combination of Zhang and Bae in order to achieve the benefit of the rms voltage of the compensating pulse can be optimized in the LCD panel having different capacitance, electrode resistance or other material characteristics, or drive duty factor. As a result, the crosstalk can be eliminated or reduced effectively, see Kumagawa, col. 36, lines 41-46.

13. As to claim 10, Zhang teaches a display device comprising:

an array of pixels that includes rows of pixels that are selected by a plurality of row drive signals [the rows of pixels will overlap the columns at a layer of light modulating material between row and column electrodes to define rows and column of pixels that are substantially co-existence with the overlapping areas of the row and column electrodes, see Fig. 1A, col. 7, lines 18-23];

a row driver that is configured to sequentially apply each row drive signal [a row driver 106 for scanning the LCD row-by-row, see Fig. 1A, col. 6, lines 45-46] of the plurality of row drive signals from a first time to a second time within a frame period [each of the LCD scanning cycle time intervals t1, t2, t3 is preferably 5.5mS or less for each of the subframe, so that the total frame cycle time is 16.67 mS or less, see Fig. 2, col. 7, lines 9-12];

a lighting source that is configured to provide a pulse of light at a third time within the frame period [the light pulse of appropriate color is generated by means of the backlight unit to illuminate the corresponding portion of LCD at a fixed delay after the scanning of certain pixels rows, see Fig. 2, col. 4, lines 19-22], as the best understand by the Examiner due to 35 U.S.C. 112, first paragraph.

Accordingly, Zhang teaches all of the claimed limitations, except wherein the display device is configured such that a switching rate of each row of pixels.

However, Bae teaches a liquid crystal display device which includes a pixel is constructed by using a thin film transistor as a switching element and when the pixel electrode is driven by the thin film transistor, see Fig. 4, col. 3, lines 56-59. Bae further teaches thin film transistor with an increased switching rate, see the title.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to change to implement the cooperation of the TFT-liquid crystal display device is configured to increase the switching rate of pixels as taught by Bae with the liquid crystal display device and the backlight unit of Zhang in order to achieve the benefit of provide a structure comprising a plurality of thin film

transistors arranged in matrix array of which the manufacturing steps are easy to be carried out and the on-currents are more improved, and to further provide a thin film transistor assigned in a matrix array to be formed directly on an address line without forming a gate electrode for the formation of a transistor on the gate address line, see Bae, col. 2, lines 7-15.

The combination of Zhang and Bae teach all of the claimed limitations, except for each row of pixels thereby having a sequentially increasing row selection time, and wherein the display device is configured such that a switching rate of each row of pixels is configured to be based on the difference between the third time and the row selection time of the row of pixel.

However, Kumagawa et al (Kumagawa) teaches a twenty-third embodiment, see Fig. 32, shows a circuit that corresponds to one part of the control circuit 307 in Fig. 27, see col. 38, lines 32-36. According to the effect of the offset adder circuit, the pulse width increases in the order of a. nearest, b. middle, and c. farthest, see col. 38, lines 51-53. In the LCD panel, the scanning voltage level decreases along with the distance from the power source, i.e., from the nearest to the farthest, due to the CR circuit formed by the resistance of the scanning electrode and the capacitance of the pixel. The voltage applied to pixel is the difference voltage between the voltage level of the scanning electrode and the signal electrode, see col. 39, lines 7-14.

It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to change to implement the cooperation of each row of pixels thereby having a sequentially increasing row selection time, and wherein the display

device is configured such that a switching rate of each row of pixels is configured to be based on the difference between the third time and the row selection time of the row of pixel as taught by Kumagawa with the combination of Zhang and Bae in order to achieve the benefit of the rms voltage of the compensating pulse can be optimized in the LCD panel having different capacitance, electrode resistance or other material characteristics, or drive duty factor. As a result, the crosstalk can be eliminated or reduced effectively, see Kumagawa, col. 36, lines 41-46.

14. As to claim 2, the combination of Zhang and Bae teach all of the claimed limitations of claim 1, except wherein the display device is configured to increase the switching rate of the pixels by increasing an applied drive voltage across the pixels based on the sequence of selecting the pixels.

However, Kumagawa et al (Kumagawa) teaches a twenty-third embodiment, see Fig. 32, shows a circuit that corresponds to one part of the control circuit 307 in Fig. 27, see col. 38, lines 32-36. According to the effect of the offset adder circuit, the pulse width increases in the order of a. nearest, b. middle, and c. farthest, see col. 38, lines 51-53. In the LCD panel, the scanning voltage level decreases along with the distance from the power source, i.e., from the nearest to the farthest, due to the CR circuit formed by the resistance of the scanning electrode and the capacitance of the pixel. The voltage applied to pixel is the difference voltage between the voltage level of the scanning electrode and the signal electrode, see col. 39, lines 7-14.

It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to change to implement the cooperation of increasing an

applied drive voltage across the pixels based on the sequence of selecting the pixels as taught by Kumagawa with the combination of Zhang and Bae in order to achieve the benefit of the rms voltage of the compensating pulse can be optimized in the LCD panel having different capacitance, electrode resistance or other material characteristics, or drive duty factor. As a result, the crosstalk can be eliminated or reduced effectively, see Kumagawa, col. 36, lines 41-46.

As to claim 3, the combination of Zhang and Bae and Kumagawa teach wherein a picture electrode of a pixel is capacitively coupled to a further electrode [the LCD panel has a difference capacitance, electrode resistance, see Kumagawa, col. 36, lines 43-44], and the display device is configured to increase the switching rate of the pixels [thin film transistor with an increased switching rate, see Bae, the title] by increasing an applied drive voltage across the pixel via the capacitive coupling [The voltage applied to pixel is the difference voltage between the voltage level of the scanning electrode and the signal electrode, see Kumagawa, col. 39, lines 7-14. The pulse width increases in the order of a. nearest, b. middle, and c. farthest, see Kumagawa, col. 38, lines 51-53].

As to claim 4, the combination of Zhang and Bae and Kumagawa teach wherein the drive voltage is applied across the pixels via a capacitive coupling with a juxtaposed electrode [the LCD panel has a difference capacitance, electrode resistance, see Kumagawa, col. 36, lines 43-44].

As to claim 5, the combination of Zhang and Bae and Kumagawa teach wherein the capacitive coupling between the picture electrode and further electrode is dependent upon the sequence of selecting the pixels [the LCD panel has a difference

capacitance, electrode resistance, see Kumagawa, col. 36, lines 43-44. The voltage applied to pixel is the difference voltage between the voltage level of the scanning electrode and the signal electrode, see Kumagawa, col. 39, lines 7-14].

As to claim 11, the combination of Zhang and Bae and Kumagawa teach wherein the row driver is configured to apply sequentially larger voltage differentials to form each row drive signal from the first time and the second time within the frame period [a time constant of the CR circuit, which is made of a resistance of the scanning electrode and a capacitance of the pixel, depends on the distance from the scan drive circuit, so that the distortion is larger that the farthest portion and smaller at the nearest portion, see Kumagawa, col. 40, line 65 through col. 41, line 2].

As to claims 12 and 16, the combination of Zhang and Bae and Kumagawa teach wherein each pixel of each row of pixels includes a capacitance that affects the switching rate of the row of pixels, and the capacitance of the pixels of each row of pixels is based on the difference between the third time and the row selection time of the row of pixels [a time constant of the CR circuit, which is made of a resistance of the scanning electrode and a capacitance of the pixel, depends on the distance from the scan drive circuit, so that the distortion is larger that the farthest portion and smaller at the nearest portion, see Kumagawa, col. 40, line 65 through col. 41, line 2].

As to claim 23, the combination of Zhang and Bae and Kumagawa teach wherein the switching rate of each row of pixels increases [a pixel is constructed by using a thin film transistor as a switching element and when the pixel electrode is driven by the thin film transistor, see Bae, Fig. 4, col. 3, lines 56-59. Bae further teaches thin film

transistor with an increased switching rate, see the title. Thus, it would have been obvious to provide each row of pixels thereby having a sequentially increasing row selection time, and the TFT-liquid crystal display device is configured to increase the switching rate of pixels based on the sequence of selecting the pixels] as the difference between the third time and the selection time of the row of pixels decreases [In the LCD panel, the scanning voltage level decreases along with the distance from the power source, i.e., from the nearest to the farthest, due to the CR circuit formed by the resistance of the scanning electrode and the capacitance of the pixel. The voltage applied to pixel is the difference voltage between the voltage level of the scanning electrode and the signal electrode, see Kumagawa, col. 39, lines 7-14].

15. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zhang in view of Bae as applied to claim 1 above, and further in view of Bonnett et al (previously cited, US 6,075,506).

16. As to claim 7, the combination of Zhang and Bae teach all of the claimed limitations of claim 1, except for the temperature gradient during operation, at which the temperature increase in a direction of the sequence of selecting the pixels.

However, Bonnett et al (Bonnett) teaches a liquid crystal display device comprising the graph 14 illustrates the effect of increasing temperature on the pixels in the odd frames whereas the graph 15 illustrates the effect of increasing temperature on the pixels in the even frames (fig. 4, col. 5, lines 25-28).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to change to implement the cooperation of the

temperature gradient during operation, at which the temperature increase in a direction of the sequence of selecting the pixels as taught by Bonnet with the combination of Zhang and Bae in order to achieve the benefit of compensate for change in gray level with temperature (see Bonnett, col. 6, lines 42-45).

17. Claims 14, 15 and 18-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhang in view of Bae in view of Kumagawa as applied to claim 10 above, and further in view of Bonnett et al (previously cited, US 6,075,506).

18. As to claims 14, 15 and 18-21, the combination of Zhang and Bae and Kumagawa teach all of the claimed limitations of claim 10, except wherein the display device is configured such that an operating temperature of each row of pixels is dependent upon the difference between the third time and the row selection time of the rows of pixels.

However, Bonnett teaches a liquid crystal display device comprising the graph 14 illustrates the effect of increasing temperature on the pixels in the odd frames whereas the graph 15 illustrates the effect of increasing temperature on the pixels in the even frames (fig. 4, col. 5, lines 25-28).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to change to implement the cooperation of LCD device including increasing temperature on the pixels as taught by Bonnet with the combination of Zhang and Bae and Kumagawa in order to achieve the benefit of compensate for change in gray level with temperature (see Bonnett, col. 6, lines 42-45).

19. As to claim 22, the combination of Zhang and Bae and Kumagawa and Bonnett teach wherein the operating temperature of each row of pixels increases as the difference between the third time and the selection time of the row of pixels decrease [the effect of increasing temperature on the pixels in the odd frames whereas the graph 15 illustrates the effect of increasing temperature on the pixels in the even frames, see Bonnett, fig. 4, col. 5, lines 25-28. In the LCD panel, the scanning voltage level decreases along with the distance from the power source, i.e., from the nearest to the farthest, due to the CR circuit formed by the resistance of the scanning electrode and the capacitance of the pixel. The voltage applied to pixel is the difference voltage between the voltage level of the scanning electrode and the signal electrode, see Kumagawa, col. 39, lines 7-14].

20. Claims 13 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhang in view of Bae in view of Kumagawa as applied to claim 10 above, and further in view of Kanemori et al (newly cited, US 5,508591)

21. As to claim 13, the combination of Zhang and Bae and Kumagawa teach all of the claimed limitation of claim 10, except for each capacitance is formed by an overlap of a picture electrode of the pixel and a row electrode that provides the row drive signal to a prior row of pixels, and an amount of the overlap is based on the difference between the third time and the row selection time of the row of pixels.

However, Kanermori et al (Kanemori) teaches the additive capacitance 42 is formed on an overlapping portion of the pixel electrode 41 as shown by hatching in Fig. 8, see col. 8, lines 48-52.

It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to change to implement the cooperation of the additive capacitance 42 is formed on an overlapping portion of the pixel electrode 41 as taught by Kanemori with the combination of Zhang and Bae and Kumagawa in order to achieve the benefit of providing an active matrix display device in which one can detect and correct any faulty pixel electrodes by a simple procedure after all pixel electrodes are driven, providing an active matrix display device which can be produced at low costs with a high manufacturing yield, and providing an active matrix display device in which one can correct any faulty pixel electrodes without reducing the aperture ratio of the display panel (see Kanemori, col. 3, lines 56-63).

22. Claim 17 shares the same limitations as those of claim 13 and therefore the rationale for rejection will be the same.

Response to Arguments

23. Applicant's arguments with respect to claims 1-5, 7, and 10-23 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin M. Nguyen whose telephone number is 571-272-7697. The examiner can normally be reached on MON-THU from 9:00-6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick N. Edouard can be reached on 571-272-7603. The fax phone

number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the Patent Application Information Retrieval system, see http://portal.uspto.gov/external/portal/pair. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kevin M. Nguyen
Patent Examiner
Art Unit 2674

KMN
December 10, 2005

PATRICK N. EDOUARD
SUPERVISORY PATENT EXAMINER